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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/993,877

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Hakan Ozdemir

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EXAMINER

MERCEDES, DISMERY E

ART UNIT

PAPER NUMBER

2627

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/993,877	<b>Applicant(s)</b> OZDEMIR, HAKAN	
	<b>Examiner</b> Dismery E. Mercedes	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7 is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-29 and 32 is/are rejected.
- 7) ☒ Claim(s) 30, 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Information Disclosure Statement*

The information disclosure statement (IDS) submitted on 7/16/2007 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### *Response to Arguments*

1. Applicant's arguments filed 7/16/2007 have been fully considered but they are not persuasive.

Regarding Claim 1, Applicant argues that Patapoutian et al., does not disclose a servo wedge without a DC erase field (or zero-frequency field) that is operable to identify a disk sector in conjunction with an initial positioning of a read-write head upon spin-up of the disk. However, the Examiner respectfully disagrees. Patapoutian et al. discloses a disk sector operable to store data, and wherein an optional DC erase field may be used, in conjunction with the head position it determines a disk sector (see figs.2 & 4 and col.5, lines 58-63 and col.6, lines 47-67 – wherein a sector with a optional, therefore, no DC erase field is disclosed and wherein other servo information, SAM and bursts, are also disclosed, which in conjunction with the head position, determines the desired location (i.e. sector number-spoke number)). Therefore, the claim language as recited in the claim 1, is no different in meaning or function than what is disclosed by Patapoutian et al.

As to Claim 14, as necessitated by the amendment, new grounds of rejection in view of Patapoutian is applied. Therefore, arguments are moot.

As to Claim 20, the Examiner would like to point out that this claim is currently amended along with Claim 14, and the status of this claim should be corrected as “Currently Amended” and NOT “Original.”

*Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1-4,8-13,25-28,32 are rejected under 35 U.S.C. 102(b) as being anticipated by Patapoutian et al. (US 5,661,760).

As to Claim 1, Patapoutian et al. discloses a storage disk, comprising: a disk sector having a beginning and operable to store data (see fig.2); and a servo wedge located at the beginning of the sector and operable without a zero-frequency field to identify the sector in conjunction with an initial positioning of a read-write head and a read of the data from or write of the data to the disk sector (see fig.4, preamble and SAM and servo bursts for positioning of the read-write head and the dc erase field is optional; and col.5, lines 58-63 and col.6, lines 47-67 – wherein a sector with a optional, therefore, no DC erase field is disclosed and wherein other servo information, SAM and bursts, are also disclosed, which in conjunction with the head position, determines the desired location (i.e. sector number-spoke number); col.11, lines 50-55).

As to Claim 2, Patapoutian et al. further discloses the sector includes a track that is operable to store the data; and the servo wedge is operable to identify the track during an initial positioning of a read-write head and during a subsequent read of the data from or write of the data to the track (see fig.4, “733-736”).

As to claim 3, Patapoutian et al. discloses a disk comprising data sectors; servo wedges each detectable by a read head upon initial spin-up and identifying a respective data sector; and no zero-

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frequency spin-up fields associated with the servo wedges (see figs.2-4 and respective description thereof).

As to Claim 4, Patapoutian et al. further discloses the data sectors comprise tracks; and each servo wedge identifies and is located in a respective track (see figs.2-4 col.6, lines 14-16, 62-67).

As to Claim 8 Patapoutian et al. discloses disk sectors operable to store data; servo wedges located in the disk sectors and each having a respective location identifiers, respective position bursts, and a respective other portions, the other portions of each servo wedge substantially the same as the other portions of all the other servo wedges and detectable during an initial read-write head positioning; and no zero-frequency spin-up fields (see figs.2-4 and respective description thereof and col.6, lines 46-61, wherein the dc erase field is optional).

As to Claim 9-11, Patapoutian et al. further discloses wherein the other portions of each servo wedge include a preamble (as per claim 10) a synch mark (as per claim 11) a servo address mark (see fig.4 and col.1, lines 46-55).

As to Claim 12, Patapoutian et al. further discloses wherein the location identifier of each servo wedge is different from the location of another servo wedge (see fig.4 and respective description thereof, every servo wedge is uniquely identified).

As to Claim 13, Patapoutian et al. further discloses wherein position bursts each servo wedge is different from the position bursts of another servo wedge (see fig.4 & 13 wherein the position burst are different from one another).

As to Claims 25-28 are method claims drawn to the apparatus of claims 1-4, and are rejected for similar reasons as set forth in the rejection of claims 1-4, above.

As to Claim 32, has the same limitations as to those treated in the rejection of claim 1, and are met by the reference as discussed above.

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14-24,29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuttle et al. (US 6,108,151) in view of Patapoutian et al.

As to Claim 14, Tuttle et al. discloses: a data-storage disk having a surface, data sectors at respective locations of the surface, and servo wedges that each include respective servo data that identifies the location of a respective data sector; a motor coupled to and operable to rotate the disk; a read head operable to generate a read signal that represents the servo data and having a position with respect to the surface of the data-storage disk; a read-head positioning circuit operable to move the read head over the surface of the disk; and a servo circuit coupled to the read head and to the read-head positioning system, the servo circuit including, a servo channel operable to recover the servo data from the read signal, and a processor coupled to the servo channel and operable to detect one of the servo wedges while or after the disk attains an operating speed but before the servo channel recovers servo data from any other of the servo wedges (see figs.2-3 and 14 and col.4, lines 13-47 and col.15, line 12 – col.16, line 37, wherein while at a steady speed the detection of servo wedge is performed, but before obtaining the head positioning information ). Tuttle et al. fails to disclose a servo wedge without a zero-frequency field. However, Patapoutian et al. discloses a servo wedge with an optional DC erase field (zero frequency) and used in conjunction with head positioning control to detect the desired radial location (sector number, spoke number). Therefore,

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it would have been obvious to one of ordinary skill in the art the time of the invention to detect a disk sector without the need of a DC erase field, in order to provide an improved disk drive head servo format and architecture (see col.2, lines 61-62 of Patapoutian et al.).

As to claim 15, Tuttle et al. further discloses the servo channel is operable to recover the servo data from the detected servo wedge; and the servo circuit is operable to, determine an initial position of the read head from the recovered servo data, and provide the initial position to the read-head positioning circuit (see fig.2b-3 see col.4, lines 13-47; col.15, line 12 – col.16, line 37).

As to claim 16, Tuttle et al. further discloses wherein the servo channel is operable to recover the servo data from the detected servo wedge and to provide the location of the respective data sector to the read-head positioning circuit (see fig.2, wherein the location of the data sector can be obtained from the servo data “3”).

As to claim 17 Tuttle et al. further discloses the servo channel is operable to recover the servo data from the detected servo wedge and to provide the location of the respective data sector to the read-head positioning circuit; and the read-head positioning circuit is operable to determine an initial position of the read head from the location of the respective data sector (see fig.2b and col.4, lines 13-47 and col.15, line 12 – col.16, line 37).

As to claim 18 Tuttle et al. further discloses wherein the read-head position circuit and the servo circuit are unable to determine the position of the read head before the processor detects the one servo wedge (see fig.2b and respective description thereof and col.14, lines 25-32--wherein the positioning information of the read head is obtained through reading the data of the servo wedge)

As to claim 19 Tuttle et al. further discloses wherein the read head comprises a read-write head (see fig.2b and col.4, line 17).

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As to Claims 20-24 have the same limitations as to those treated in the rejection of claims 14-19 and are met by the reference as discussed in the rejection of claims 14-19 above.

As to Claim 29, Tuttle et al. further discloses writing a first servo wedge without a zero-frequency spin-up field onto a surface of a data-storage disk to define a first disk sector that is operable to store file data, the first servo wedge including first servo data that is operable to identify the first disk sector during an initial positioning of a head over the disk and during a read of file data from or a write of file data to the first disk sector; and writing a second servo wedge onto the surface of the data-storage disk to define a second disk sector that is operable to store file data, the second servo wedge including second servo data that is operable to identify the second disk sector during a read of file data from or a write of file data to the second disk sector (see fig.2-3 and col.6, lines 24-32; col.11, lines 6-24 and col.14, lines 16-40- first sector is detected during initial positioning of the head over the disk and then seeks for the next sector on the track).

#### ***Allowable Subject Matter***

5. Claims 5-7 are allowed.

Independent claim 5 is allowable over the prior art since the cited references taken alone or in combination do not teach or suggest: servo wedges detectable without a zero-frequency field upon an initial spin-up located in the disk sectors and *each having a pre-synchronization-mark section with substantially the same bit pattern and length as the pre-synchronization-mark section of the other servo wedges; and no servo wedge having a pre-synchronization-mark section with a significantly different bit pattern or a significantly different length as compared to the pre-synchronization-mark section of the other servo wedges.*



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6. Claim 30-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dismery E. Mercedes whose telephone number is 571-272-7558. The examiner can normally be reached on Monday - Friday, from 9:00am - 4:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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